

Final Report of Project
“Cultural Influences on Intertemporal Reasoning”
ONR Contract No. N00014-09-C-0570

Submitted by

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to

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BACKGROUND

Methods of formal analysis are at the center of decision support and guidance that our Government provides to emerging nations as part of infrastructure and political development. These methods, such as decision analysis, multi-attribute utility analysis and risk analysis, are rooted in western concepts of intertemporal reasoning. The research undertaken in this project identifies how cultural factors influence intertemporal reasoning, with a focus on Arab culture. Two additional cultures, Pashtun and Somali, were studied to the degree that existing resources (in English) were available. The research was conducted by a three-person team of experts in the fields of psychology, cultural anthropology and decision analysis. The project was two-years in duration. Four research tasks were performed. During the course of the project a wide range of resources were consulted. An annotated bibliography was developed to serve as an intermediate research product and as a vehicle for sharing findings among investigators from a literature review. The resulting base of information was synthesized into a set of conference presentations and research papers. These are summarized below in terms of accomplishments, each containing a title and abstract. Full copies of the papers are contained as enclosures to this report. In addition, they are available either from the project principal investigator (Dr. Donald MacGregor) or downloadable from the Social Science Research Network (SSRN). Where appropriate, a link to the SSRN abstract is provided.

SUMMARY OF ACCOMPLISHMENTS

Conferences and Presentations

MacGregor, D. G., Tainter, J., & Godfrey, J. (2009, August). *Cultural Influences on Intertemporal Reasoning*. Paper presented at the HSCB Focus 2010 Conference Chantilly, VA.

MacGregor, D. G., & Godfrey, J. (2010, July). *Intertemporal Reasoning and Cross-Cultural Decision Making*. Paper presented at the 1st International Conference on Cross-Cultural Decision Making, Miami, FL.¹

MacGregor, D. G., & Godfrey, J. (2011, February). *Observations on the Concept of Risk and Arab Culture*. Paper presented at the HSCB Focus 2011 Conference, Chantilly, VA.

Papers and Reports

MacGregor, D. G., & Godfrey, J. (in press). Intertemporal Reasoning and Cross-Cultural Decision Making. In G. Salvendy & W. Karwowski, W. (Eds.). (In press). *Proceedings of the First International Conference on Cross-Cultural Decision Making*. New York: Wiley & Sons. Access at: <http://ssrn.com/abstract=1750266>.

ABSTRACT

Elements of economic theory are examined to understand the Euro-American cultural assumptions encoded in their formulation. The research develops a framework by which to understand how Euro-American beliefs relevant to economic theory might be understood or misunderstood in other cultures, with the goal of facilitating inter-cultural dialog. The framework is constructed using an approach based on decomposing key economic concepts into their component elements and relating those elements to research that has identified important cultural views that influence how these components are matched or mismatched by cultural beliefs. We take as our starting point the notion of Net Present Value and the Time Value of Money demonstrating how this single, but central, concept from investment analysis encodes cultural assumptions regarding the linearity of time, equity, individual property, and wealth creation. The results are applied to non-western cultural beliefs, particularly in Arab cultures.

MacGregor, D. G., & Godfrey, J. *Arab Cultural Influences on Intertemporal Reasoning*. Research Report. Access at: <http://ssrn.com/abstract=1966639>

ABSTRACT

All known cultures deal with time. How they understand time is a defining cultural characteristic, especially in contrast to the Western cultural understanding. This paper uses the term *intertemporal reasoning* to refer to the psychosocial and cultural processes engaged when people either integrate past experiences and events or project forward to

¹ Conference held jointly with the 3rd International Conference on Applied Human Factors and Ergonomics (AHFE).

the future. Available literature (in English) on Arab culture is explored to contrast how that culture reasons about time and events, with respect to Western cultures. A number of themes emerge from this synthesis, including the role that attribution of causality plays in Western culture as a basis for interpretation of the past, and the tendency of Arab culture to integrate events into an associative *gestalt* as a basis for understanding and explanation. The results suggest that Arab culture has traditions that may place less emphasis than Western cultures on temporal sequencing as a key organizing principle, both in terms of cognitive processes and in terms of cultural functions such as storytelling. Furthermore, the poetic quality of Arab culture favors an associative approach to the integration of past and present, as opposed to the causal approach of Western cultures. As a practical matter, it is suggested that Arab cultural traditions concerning time and events may play an important role in how day-to-day experience is both encoded and recalled as part of reconstructing recent personal histories (e.g., where one has been) in terms of the ordering of events in the recent past.

MacGregor, D. G., & Godfrey, J. *Observations on the Concept of Risk and Arab Culture*. Research Report. Access at: <http://ssrn.com/abstract=1966713>

ABSTRACT

Western science has developed powerful techniques for modeling and aiding important social decisions. One such technique is risk assessment. The relationship of risk to cultural context is apparent in a number of its facets, including its dependence on values and the (potential) clash between probabilistic versus deterministic views about states of the future. This paper is an examination of the concept of risk using as a lens ideas and concepts about risk that are prevalent in Western culture, and applying these concepts to existing literature (in English) on Arab culture that provides information relevant to risk. The goal of the paper is to amplify our understanding of how Arab culture conceptualizes elements of risk and its assessment as understood and practiced in the West. A background for this synthesis is an overview of the history of risk in Western cultures that traces the evolution of modern ideas about risk as both a mathematical and a social development. Current research on risk in Western literature is used to frame key risk issues in terms of their potential fit (or misfit) with features of Arab culture. The paper concludes with a number of speculative recommendations for research and practice that suggest a cautious approach with regard to applying risk-related principles in Arab cultural contexts that place a relatively high value on traditionalism.

Tainter, J.A. & MacGregor, D. G. *Pashtun social structure: Cultural perceptions and segmentary lineage organization*. Research Report. Access at: <http://ssrn.com/abstract=1934940>

ABSTRACT

The Pashtun are an ethnic group that straddles the Afghanistan-Pakistan border, and are the largest group in Afghanistan. Pashtun social structure is what anthropologists term a

segmentary lineage system. In such a system, there is a hierarchy of social groupings starting at the local level, then proceeding upward through various levels to an entire ethnic group. These relationships are based on kinship and shared culture. Segmentary lineage organization presents outsiders with both opportunities and challenges. It is highly important to understand this in such areas as economic development, Taliban force composition, negotiation, and the establishment of friendships and alliances. The report discusses these topics in some detail. The Pashtun on the one hand, and Western interveners on the other, are likely to have fundamentally different understandings in these and other areas, including conceptualization of time and events.

MacGregor, D. G., Tainter, J., & Godfrey, J. *Cultural Influences on Intertemporal Reasoning: An Annotated Bibliography*. Research Paper. Access at: <http://ssrn.com/abstract=1966736>

ABSTRACT

This bibliography was produced as part of an Office of Naval Research project titled “Cultural Influences on Intertemporal Reasoning.” The project approach is intended to provide a platform of knowledge based on existing research that will improve our ability to field useful and meaningful decision support in cultures where the capacity for such support is either limited or non-existent, with a focus on three non-Western cultures: Arab, Pashtun and Somali culture. The focus of the project is on *intertemporal reasoning* and how the focal cultures differ in this respect from the West. Intertemporal reasoning is defined as the psychosocial and cultural processes engaged when people are called upon to either integrate past experiences and events or projects forward to the future. This bibliography is a collection of annotated entries that each of the three project researchers developed as part of their particular examination of the existing literature. Emphasis is on Arab culture, owing to the relative availability of resources published in English. Intended readers include those with an interest in this focused aspect of non-Western cultures.

LIST OF ENCLOSURES

- Enclosure No. 1: MacGregor, D. G., & Godfrey, J. (in press). Intertemporal Reasoning and Cross-Cultural Decision Making. In G. Salvendy & W. Karwoski, W. (Eds.). (In press). *Proceedings of the First International Conference on Cross-Cultural Decision Making*. New York: Wiley & Sons. Access at: <http://ssrn.com/abstract=1750266>.
- Enclosure No. 2: MacGregor, D. G., & Godfrey, J. *Arab Cultural Influences on Intertemporal Reasoning*. Research Report. Access at: <http://ssrn.com/abstract=1966639>
- Enclosure No. 3: MacGregor, D. G., & Godfrey, J. *Observations on the Concept of Risk and Arab Culture*. Research Report. Access at: <http://ssrn.com/abstract=1966713>
- Enclosure No. 4: Tainter, J.A. & MacGregor, D. G. *Pashtun social structure: Cultural perceptions and segmentary lineage organization*. Research Report. Access at: <http://ssrn.com/abstract=1934940>
- Enclosure No. 5: MacGregor, D. G., Tainter, J., & Godfrey, J. *Cultural Influences on Intertemporal Reasoning: An Annotated Bibliography*. Research Paper. Access at: <http://ssrn.com/abstract=1966736>

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